Bourdon Tube Pressure Gauge Model 21X.53 Stainless Steel Construction

Applications
- Intended for adverse service conditions where pulsating or vibration exists (with liquid filling)
- Hydraulics & compressors
- Suitable for gaseous or liquid media that will not obstruct the pressure system

Special features
- Vibration and shock resistant (with liquid filling)
- Stainless steel case
- Pressure ranges up to 15,000 psi

Standard Features

**Design**
ASME B40.100 & EN 837-1

**Sizes**
2", 2½" & 4" (50, 63 & 100 mm)

**Accuracy class**

<table>
<thead>
<tr>
<th>Size</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot; &amp; 2½&quot;</td>
<td>± 2/1/2% of span (ASME B40.100 Grade A)</td>
</tr>
<tr>
<td>4&quot;</td>
<td>± 1% of span (ASME B40.100 Grade 1A)</td>
</tr>
</tbody>
</table>

**Ranges**
- Vacuum / Compound to 200 psi
- Pressure from 15 psi to 15,000 psi
- Pressure from 15 psi to 10,000 psi - 2" size or other equivalent units of pressure or vacuum

**Working pressure**

<table>
<thead>
<tr>
<th>Size</th>
<th>Steady</th>
<th>Fluctuating</th>
<th>Short time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 2½&quot;</td>
<td>3/4 scale value</td>
<td>2/3 full scale value</td>
<td>full scale value</td>
</tr>
<tr>
<td>4&quot;</td>
<td>full scale value</td>
<td>0.9 x full scale value</td>
<td>1.3 x full scale value</td>
</tr>
</tbody>
</table>

**Temperature error**
Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.4% for every 18°F (10°C) rising or falling. Percentage of span.

**Weather protection**
Weather tight (NEMA 4X / IP 65)

**Pressure connection**
Material: copper alloy
Lower mount (LM) or center back mount (CBM) - 2" & 2½"
Lower mount (LM) or lower back mount (LBM) - 4"
1/8" NPT, 1/4" NPT or 1/2" NPT limited to wrench flat area

**Bourdon tube**

<table>
<thead>
<tr>
<th>Size</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>2½&quot;</td>
<td>Copper alloy</td>
</tr>
<tr>
<td>30&quot; Hg (Vac) to 1,000 PSI</td>
<td>C-type (soldered)</td>
</tr>
<tr>
<td>1,500 PSI to 15,000 PSI</td>
<td>helical type (soldered)</td>
</tr>
<tr>
<td>Changes to stainless steel at 7,500 PSI brazed</td>
<td></td>
</tr>
<tr>
<td>4&quot;</td>
<td>Copper alloy ≤ 1,000 PSI</td>
</tr>
<tr>
<td>316 stainless steel ≥ 1,500 PSI</td>
<td></td>
</tr>
<tr>
<td>30&quot; Hg (Vac) to 1,000 PSI</td>
<td>C-type (soldered)</td>
</tr>
<tr>
<td>1,500 PSI to 15,000 PSI</td>
<td>helical type (brazed)</td>
</tr>
<tr>
<td>Changes to stainless steel at 1,500 PSI</td>
<td></td>
</tr>
</tbody>
</table>

**Movement**
Copper alloy

**Dial**
- White ABS (2" & 2½") and white aluminum (4")

**Pointer**
Black aluminum
### Case
304 stainless steel with vent plug and stainless steel crimp ring. Suitable for liquid filling. Case connection sealed with EPDM o-ring (glycerine filled) or Viton o-ring (dry or silicone filled).

### Window
Polycarbonate with Buna-N gasket

### Case fill
Glycerine 99.7% - Type 213.53

### Optional extras
- Brass restrictor
- Stainless steel front or rear flange - 2½" & 4"
- Zinc-plated steel or SS u-clamp bracket (field installable)
- External zero adjustment (2½" only)
- Red drag pointer or mark pointer
- Silicone or Fluorolube case filling
- Special connections limited to wrench flat area
- Custom dial layout
- Other pressure scales available
  - bar, kPa, MPa, kg/cm² and dual scales

### Dimensions

**Case**

- 304 stainless steel with vent plug and stainless steel crimp ring.
- Suitable for liquid filling.
- Case connection sealed with EPDM o-ring (glycerine filled) or Viton o-ring (dry or silicone filled).

**Window**

- Polycarbonate with Buna-N gasket

**Case fill**

- Glycerine 99.7% - Type 213.53

**Dimensions**

- **Case**
  - 304 stainless steel with vent plug and stainless steel crimp ring.
  - Suitable for liquid filling.
  - Case connection sealed with EPDM o-ring (glycerine filled) or Viton o-ring (dry or silicone filled).

- **Window**
  - Polycarbonate with Buna-N gasket

- **Case fill**
  - Glycerine 99.7% - Type 213.53

**Optional extras**

- Brass restrictor
- Stainless steel front or rear flange - 2½" & 4"
- Zinc-plated steel or SS u-clamp bracket (field installable)
- External zero adjustment (2½" only)
- Red drag pointer or mark pointer
- Silicone or Fluorolube case filling
- Special connections limited to wrench flat area
- Custom dial layout
- Other pressure scales available  
  - bar, kPa, MPa, kg/cm² and dual scales

**Size**

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>S</th>
<th>T</th>
<th>W</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td>mm</td>
<td>55</td>
<td>48</td>
<td>30</td>
<td>50</td>
<td>12</td>
<td>53</td>
<td>3.6</td>
<td>72</td>
<td>6.5</td>
<td>71</td>
<td>60</td>
<td>5.5</td>
<td>14</td>
<td>0.27 lb. dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>2.17</td>
<td>1.89</td>
<td>1.18</td>
<td>0.47</td>
<td>2.09</td>
<td>0.14</td>
<td>2.83</td>
<td>0.26</td>
<td>2.80</td>
<td>0.23</td>
<td>2.36</td>
<td>0.22</td>
<td>1/4&quot;</td>
<td>0.55</td>
<td>0.33 lb. filled</td>
</tr>
<tr>
<td>2.5&quot;</td>
<td>mm</td>
<td>69</td>
<td>54</td>
<td>32</td>
<td>62</td>
<td>13</td>
<td>54</td>
<td>3.6</td>
<td>72</td>
<td>7.5</td>
<td>85</td>
<td>75</td>
<td>6.5</td>
<td>14</td>
<td>0.36 lb. dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>2.69</td>
<td>2.13</td>
<td>1.26</td>
<td>0.51</td>
<td>2.13</td>
<td>0.14</td>
<td>2.83</td>
<td>0.30</td>
<td>3.35</td>
<td>2.95</td>
<td>0.26</td>
<td>1/4&quot;</td>
<td>0.55</td>
<td>0.44 lb. filled</td>
<td></td>
</tr>
<tr>
<td>4&quot;</td>
<td>mm</td>
<td>107</td>
<td>87</td>
<td>48</td>
<td>100</td>
<td>15.5</td>
<td>79.5</td>
<td>30</td>
<td>4.8</td>
<td>109</td>
<td>9</td>
<td>132</td>
<td>116</td>
<td>8</td>
<td>22</td>
<td>1.10 lb. dry</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>4.21</td>
<td>3.43</td>
<td>1.89</td>
<td>0.61</td>
<td>3.13</td>
<td>1.18</td>
<td>0.19</td>
<td>4.29</td>
<td>0.35</td>
<td>5.20</td>
<td>4.57</td>
<td>0.31</td>
<td>1/2&quot;</td>
<td>0.87</td>
<td>1.76 lb. filled</td>
</tr>
</tbody>
</table>

**Note:** For 1/4” NPT connections on 4” gauges, reduce B dimension by 5mm/0.2”

**Recommended panel cut-out:**
- 2”- U-clamp: 51 mm front flange: n/a
- 2½”- U-clamp: 63 mm front flange: 65 mm
- 4”- U-clamp: 101 mm front flange: 104 mm
- 4½”- panel mount adapter 104 mm minimum (not shown)